P-20462
Preliminary Amendment
1/21/04

IN THE CLAIMS:

1. (Currently amended) A medical electrical lead, comprising:

an elongate lead body;

a conductive coil extending along a portion of the lead body;

a conductive wire or cable extending along a portion of the lead body; and

a conductive component coupling the coil to the wire or cable and including a first side, a second side opposing the first side, a first groove formed in the first side and a second groove formed in the second side ~~and extending approximately perpendicular to the first groove~~;

wherein the first groove holds a portion of the wire or cable and the second groove holds a portion of the coil.

2. (Original) The lead of claim 1, wherein the second side includes a protruding surface in which the second groove is formed.

3. (Original) The lead of claim 2, wherein

the wire or cable extends within a lumen of the lead body;

the coil extends around an outer surface of the lead body; and

the first side of the conductive component is positioned within the lumen of the lead body and the protruding surface of the second side of the conductive component extends through the outer surface of the lead body.

4. (Original) The lead of claim 1, wherein the wire or cable includes a proximal portion and a distal portion, the proximal portion extending proximally from the portion held in the first groove and the distal portion extending distally from the portion held in the first groove.

5. (Original) The lead of claim 4, wherein the proximal and distal portions of the wire or cable each include an insulative outer layer.

6. (Original) The lead of claim 1, wherein

the conductive component further includes a first side wall extending from the first side to the second side and a second side wall opposing the first side wall and extending from the first side to the second side; and

the portion of the wire or cable is crimped within the first groove by indentation of the first side wall and the second side wall.

7. (Original) The lead of claim 1, wherein

the conductive component further includes a first side wall extending from the first side to the second side and a second side wall opposing the first side wall and extending from the first side to the second side; and

the portion of the wire or cable is crimped within the first groove by inward deformation of portions of the first side wall and the second side wall in proximity to the first side.

8. (Original) The lead of claim 1, wherein the portion of the wire or cable is welded within the first groove.

9. (Original) The lead of claim 1, wherein the portion of the coil includes a single filar, which is crimped within the first groove.

10. (Original) The lead of claim 1, wherein the portion of the coil includes a single filar, which is welded within the first groove.

11. (Original) The lead of claim 1, wherein the second groove includes a plurality of grooves.

12. (Currently amended) The lead of claim 11, wherein the portion of the coil includes a plurality of filars, each of which ~~are welded~~ is held within a one of the plurality of grooves.

13. (Currently amended) The lead of claim 1, wherein [[a]] another portion of the coil forms a defibrillation electrode.

14. (Original) The lead of claim 1, wherein the component is formed from a length of strip stock by a stamping process.

15. (Original) The lead of claim 1, wherein the component includes a grain orientation approximately perpendicular to the first groove.

16. (Original) The lead of claim 1, wherein the component is formed of a material comprising tantalum.

17. (Currently amended) A method of assembling a medical electrical lead, comprising the steps of:

positioning a portion of a conductive wire or cable in a first groove formed on a first side of a conductive component;

inserting the conductive wire or cable and the conductive component into a lumen of a body of the lead such that a second groove, formed on a second side of the conductive component ~~approximately perpendicular to the first groove~~, protrudes through an outer surface of a wall surrounding the lumen.

18. (Original) The method of claim 17, further comprising the step of stripping the portion of the conductive wire or cable of an outer insulative layer.

19. (Original) The method of claim 18, wherein the step of stripping is performed by means of laser ablation.

20. (Original) The method of claim 18, wherein the step of stripping is performed by means of cutting.

21. (Original) The method of claim 17, further comprising the step of welding to the conductive component the portion of the wire or cable within the groove.

22. (Original) The method of claim 17, further comprising the step of crimping the conductive component to hold the portion of the wire or cable within the groove.

23. (Original) The method of claim 22, wherein the step of crimping includes indenting a first side wall and a second side wall, the first side wall extending from the first side to the second side and the second side wall opposing the first side wall and extending from the first side to the second side.

24. (Original) The method of claim 22, wherein the step of crimping includes deforming inwardly portions of a first side wall and a second side wall in proximity to the first side, the first side wall extending from the first side to the second side and the second side wall opposing the first side wall and extending from the first side to the second side.

25. (Currently amended) The method of claim 17, further comprising the step of positioning a portion of a filar of a conductive coil in the second groove of the conductive component~~, the second groove oriented approximately perpendicular to the first groove~~.

26. (Currently amended) The method of claim 25, further comprising the step of welding to the conductive component the portion of the filar of the conductive coil ~~within the second groove~~.

27. (Currently amended) The method of claim 17, wherein the second groove includes a plurality of grooves and further comprising the step of positioning ~~portions~~ a portion of each of a plurality of filars of a conductive coil within a one of the plurality of grooves~~, the plurality of grooves oriented approximately perpendicular to the first groove~~.

28. (Currently amended) The method of claim 27, further comprising the step of welding to the conductive component the ~~portions~~ portion of each of the plurality of filars ~~within a one of the plurality of grooves~~.

29. (Original) The method of claim 25, further comprising the step of crimping the conductive component to hold the portion of the filar of the conductive coil within the second groove.

30. (Currently amended) A component coupling a conductive wire or cable to a conductive coil of a medical electrical lead, comprising:

a first side including a first groove formed therein; and

a second side opposing the first side and including a second groove~~, extending approximately perpendicular to the first groove,~~ formed therein;

wherein the first groove is adapted to hold a portion of the conductive wire or cable and the second groove is adapted to hold a portion of the conductive ~~wire or cable~~ coil.

31. (Currently amended) The component of claim 30, wherein the second side includes a protruding surface in which the second groove is formed.

32. (Original) The component of claim 30, wherein the component is formed from a length of strip stock by means of a stamping process.

33. (Original) The component of claim 30, further comprising a grain orientation approximately perpendicular to the first groove.

34. (Original) The component of claim 30, wherein the component is formed from a material comprising tantalum.

35. (New) The lead of claim 1, wherein the second groove extends approximately perpendicular to the first groove.

36. (New) The lead of claim 1, wherein the portion of the coil includes a plurality of filars.

37. (New) The lead of claim 36, wherein the plurality of filars are welded within the first groove.

38. (New) The lead of claim 12, wherein each of the plurality of filars is welded within a one of the plurality of grooves.

39. (New) The lead of claim 1, wherein the component is formed of a material comprising platinum.

40. (New) The lead of claim 1, wherein the component is formed of a material comprising stainless steel.

41. (New) The lead of claim 1, wherein the component is formed of a material comprising titanium.

42. (New) The lead of claim 1, wherein the first groove is formed by an EDM process.

43. (New) The component of claim 30, wherein the second groove extends approximately perpendicular to the first groove.

44. (New) The component of claim 30, wherein the second groove includes a plurality of grooves.

45. (New) The component of claim 30, wherein the component is formed of a material comprising platinum.

46. (New) The component of claim 30, wherein the component is formed of a material comprising stainless steel.

47. (New) The component of claim 30, wherein the component is formed of a material comprising titanium.

48. (New) The component of claim 30, wherein the first groove is formed by an EDM process.